

mobility 2020

The Metropolitan Transportation Plan Executive Summary



Mobility 2020: The Metropolitan Transportation Plan is the defining vision for transportation systems and services in the Dallas-Fort Worth Metropolitan Area. Serving as a guide for the expenditure of State and federal funds through the year 2020, the Plan addresses regional transportation needs that are identified through forecasting current and future travel demand, developing and evaluating system alternatives, and selecting those options which best meet the mobility needs of the region.

Mobility 2020 is the product of a cooperative effort among local governments, Dallas Area Rapid Transit, Fort Worth Transportation Authority, Texas Department of Transportation, Texas Turnpike Authority, RAILTRAN, Texas Natural Resource Conservation Commission, and Dallas-Fort Worth International Airport. The Plan was approved in December 1996 by the Regional Transportation Council and the Executive Board of the North Central Texas Council of Governments (NCTCOG), together serving as the Metropolitan Planning Organization for the Dallas-Fort Worth Metropolitan Area.

Mobility 2020 was developed in accordance with the planning requirements established in the Intermodal Surface Transportation Efficiency Act of 1991 and the Clean Air Act Amendments of 1990. The Plan is updated every three years. This Plan serves to replace the *Mobility 2010 Plan Update* developed in 1993. Mobility 2020 is the product of a multimodal system evaluation which recommends a Metropolitan Transportation System, as well as congestion mitigation strategies designed to minimize drive-alone peak-period travel and enhance the operation of the Transportation System.

The development of the Plan was guided by a set of goals which were presented and refined at technical workshops, policy briefings, and public meetings. The Regional Transportation Council adopted goals in three categories: traditional transportation goals, quality of life goals, and financial goals. Policies, programs and projects were developed as part of Mobility 2020 to accomplish these goals. The Plan calls for \$32.5 billion in Metropolitan Transportation System improvements which are included on pages 4-10 of this summary.

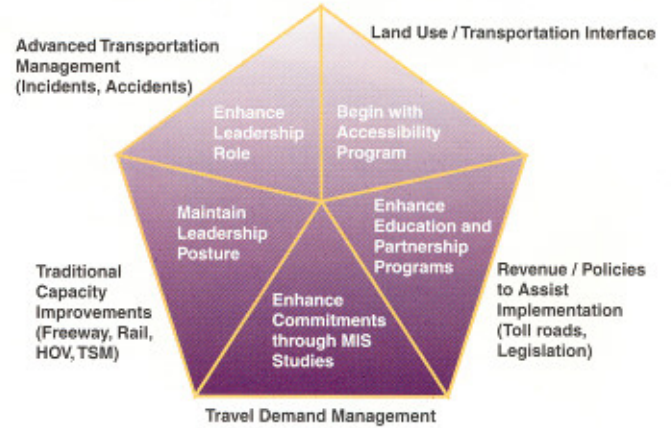
Policy Initiatives



obility 2020 includes five policy initiatives to address the challenge of increasing traffic congestion in the Dallas-Fort Worth region.

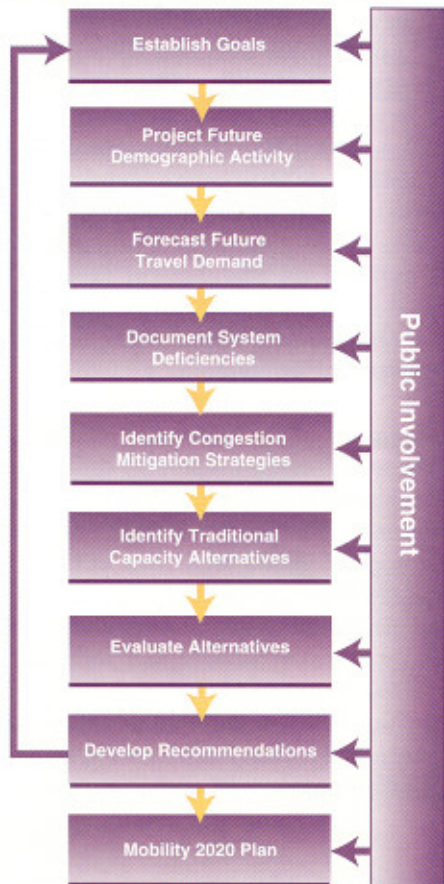
These initiatives include: formulating revenue policies and sources which support implementation of transportation improvements in the region; identifying travel demand management strategies to reduce peak-period travel demand and drive-alone travel; implementing traditional capacity improvements to address current and future congestion; promoting an Advanced Transportation Management program which includes traveler information systems, freeway and arterial traffic management strategies, and public transportation communication strategies; and developing strategies which ensure a balance between land use and transportation improvements. These five policy initiatives form the basis for the Mobility 2020 recommendations.

Policy Initiatives for Congestion Relief



Plan Development

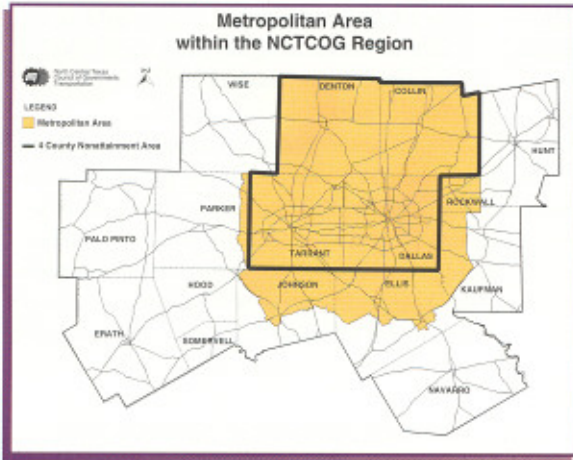
Mobility 2020 Plan Development Process



he Mobility 2020 Plan was completed by NCTCOG staff over an 18-month period. Prior to beginning work on the Plan, NCTCOG staff verified the Dallas-Fort Worth Regional Travel Model's ability to replicate current travel in the region with the 1995 Travel Model Validation. Efforts then focused on the development of travel forecasts through the year 2020 which were used to evaluate transportation options for the future. Throughout the Plan development process, a series of technical workshops were held with local governments and participating planning agencies to provide technical review of travel forecasts, the evaluation of alternatives, and plan recommendations.

Public outreach and involvement activities were critical components in the development of Mobility 2020. This process included working closely with NCTCOG's Surface Transportation Technical Committee, Travel Demand Management Committee, and Bicycle and Pedestrian Task Force. Numerous presentations were also provided to elected officials including the Regional Transportation Council, the NCTCOG Executive Board, County Commissioners Courts, and City Councils throughout the region. Briefings were provided to transportation implementation agencies including Dallas Area Rapid Transit (DART), the Fort Worth Transportation Authority (the T), and the Texas Department of Transportation (TxDOT). Thirteen public meetings were held during the development of Mobility 2020 covering all facets of the plan development process. A mailing list of over 3,500 individuals was used to notify interested citizens and businesses. Other outreach activities included development of an internet home page for Mobility 2020, presentations to civic and transportation advocacy groups, and working closely with the media.

Regional Growth



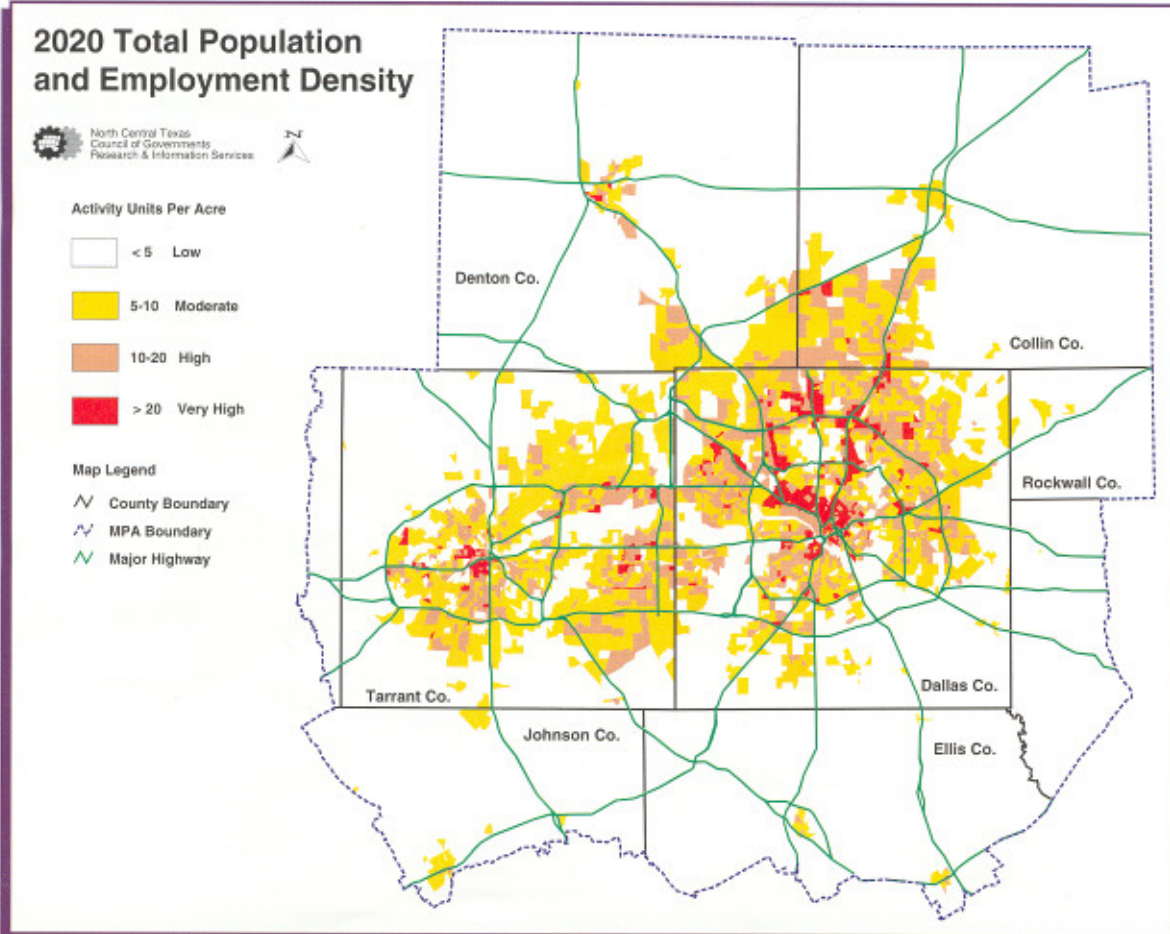
reach 3.7 million by the year 2020, a 61 percent increase. As shown below, the highest densities of future activity are anticipated to be located along major travel corridors. This dramatic growth will provide many opportunities and challenges for the region.

Larger today in population than 27 states, the Dallas-Fort Worth Area is a significant economic, social, and political center of both Texas and the U.S. The area is the State's leading regional economy accounting for over 30 percent of the State's gross regional product. The region is a national leader in the creation of new jobs, corporate relocations, and growth in technology-related businesses. One of the primary factors in maintaining the growth potential of the area is regional mobility.

The continued dramatic growth projected for the Dallas-Fort Worth Area underscores the importance of coordinated decisions regarding land use and transportation investments. Future policy initiatives stemming from Mobility 2020 are anticipated to focus on opportunities to achieve a balance between land use and transportation. Lower-cost transportation alternatives such as service roads, or freeway interchanges, which provide access to previously undeveloped areas, are examples of strategies which may be emphasized to achieve this balance.

The recommendations of Mobility 2020 are based on the need to provide a balanced, multimodal Metropolitan Transportation System which will meet the needs of this diverse rapidly growing economic region.

The Dallas-Fort Worth Metropolitan Area continues to be one of the fastest growing areas of the United States. This trend is expected to continue through the year 2020 as population is projected to reach an excess of 5.5 million by the year 2020, a 39 percent increase above today's levels. Employment is anticipated to



Congestion Mitigation Strategies

Increasing traffic congestion is one of the greatest challenges facing the Dallas-Fort Worth Metropolitan Area. It results in motorist frustration, lost productivity, and a deterioration of air quality. Better management of the transportation system will help the region to address these growing problems as limited transportation resources struggle to meet rising travel demands. Two types of congestion mitigation strategies are proposed — Transportation System Management and Travel Demand Management. The Transportation System Management (TSM) approach to congestion mitigation seeks to identify improvements to new and existing facilities of an operational nature. These techniques are designed to improve traffic flow through better management of existing facilities. The Travel Demand Management (TDM) approach to congestion mitigation focuses on user demand and behavior modification strategies to reduce drive-alone and peak-period travel.

A range of strategies were assessed for their effectiveness and feasibility of implementation in the region. Congestion benefits, air quality benefits, and benefit-cost ratios of these techniques were quantified in order to arrive at a recommended set of strategies for the region.

Adopted TSM strategies include intersection and signalization improvements on arterial streets and a bottleneck removal program to alleviate traffic congestion on the freeway system. An Advanced Transportation Management System will enhance the operation of roadways and transit systems. A special events management program will aid travel before, during, and after major sporting events, festivals, and other special events.

Adopted TDM strategies include the continuation of the regional employee trip reduction program. This voluntary public/private program helps to encourage carpooling, vanpooling and transit usage by offering incentives to the employees of the region's large employers. The program is supported by the expansion of the region's vanpool program, construction of additional park-n-ride lots throughout the region, and the implementation of additional Transportation Management Associations.

Transportation Management Associations (TMAs) are typically incorporated, nonprofit organizations designed to work with private industry and the business community on local transportation issues. These associations are usually located in areas of dense employment and focus on the implementation of travel demand reduction strategies such as carpooling, vanpooling, and discount transit pass subsidies.

The implementation of congestion mitigation strategies provides several benefits. The reduction of vehicle travel will mean less traffic congestion on our roadways resulting in reduced travel times, lower vehicle emissions, and improved air quality. Enhanced accessibility, fewer traffic accidents, and greater transportation system reliability will also be achieved through the use of these relatively low-cost strategies.

The recommended congestion mitigation strategies are summarized in the table below. Capital costs are estimated to be \$1.1 billion, while operating costs are projected to be \$36 million per year at full program implementation. This total includes an Advanced Transportation Management System, described in the following section. The congestion mitigation strategies identified here include those transportation system management and travel demand reduction strategies determined to be the most cost-effective for our region.

Congestion Mitigation Strategies

Strategy	Year 2020 Program Description	Primary Impacts of Strategy
Employer Trip Reduction Program	Voluntary public/private initiative targets region's large employers	Reduction in vehicle travel
Vanpool Program	1,620 vanpools, program targeting long work-related trips	Reduction in vehicle travel
Park-N-Ride Facilities	30 facilities	Reduction in vehicle travel
Transportation Management Associations	14 candidate corridors identified for further study	Reduction in vehicle travel
Intersection Improvements	1,680 projects	Reduction in travel time; increase in vehicle speeds on arterials
Signalization Improvements	13,320 projects	Reduction in travel time; increase in vehicle speeds on arterials
Advanced Transportation Management	Advanced Traveler Information System, Advanced Traffic Management System, Advanced Public Transportation System	Reduction in vehicle travel; reduction in travel time; increase in vehicle speeds on freeways and arterials
Freeway Bottleneck Removal	Program to identify and eliminate freeway bottlenecks	Reduction in travel time; increase in vehicle speeds on freeways and parallel arterials
Special Events Management	Interagency program to identify special events, develop and implement congestion mitigation strategies	Enhanced accessibility; reduction in vehicle travel; reduction in travel time

Advanced Transportation Management System



While much of the region's traffic congestion is a result of traffic demand exceeding available roadway supply, it is estimated that over 50 percent of all motorist delay on the freeway system is due to traffic incidents such as roadway debris, accidents, or stalled vehicles. Advanced Transportation Management strategies will significantly reduce this delay.

The cost of the Advanced Transportation Management System is projected to be \$266 million. Operating costs are projected to be \$27 million per year at full system implementation. Benefits include a reduction in recurrent and non-recurrent traffic congestion, fuel savings and air pollution reductions, safer transportation systems, and a reduction in maintenance costs.

The System is made up of the following elements:

1. An **Advanced Traveler Information System (ATIS)** will provide real-time information to system operators, emergency response personnel, and commuters regarding traffic conditions in order to facilitate less congested travel.

2. An **Advanced Traffic Management System (ATMS)** will rely on new and evolving technologies to detect incidents and expedite emergency response. Included in this system are the Mobility Assistance Patrols to assist motorists with incidents and accidents. City and Transit Transportation Management Centers will also be integrated into the ATIS. The transportation management centers will support traffic management and major incident response and clearance.

3. An **Advanced Public Transportation System (APTS)** includes Transit Management Centers which will serve as communication hubs for Dallas Area Rapid Transit and the Fort Worth Transportation Authority. These systems will be integrated with State and local government centers providing better regionwide service and increased user safety.

Three additional systems including an Advanced Rural Transportation System, a Commercial Vehicle Operations System, and an Advanced Vehicle Safety System are recommended. These systems are still in the concept development stage. As these programs develop on the national level, in both the public and private sectors, they will be integrated into this overall Advanced Transportation Management System.

Mobility 2020 Advanced Transportation Management System



FREEWAY SYSTEM COMPONENTS

- Mobility Assistance
- Basic Communication System, including Fiber optic cables, ISDN, and/or wireless Traffic Sensors
- Advanced Traffic Management System (ATMS), including Changeable Message Signs, Closed-circuit TV, and Lane Control Signals
- TxDOT Transportation Management Center (TMC)

ARTERIAL & TRANSIT SYSTEM COMPONENTS

- City Transportation Management Center connected to TxDOT TMC (others to be determined)
- Transit Management Center connected to TxDOT TMC

Total System Includes: Advanced Traveler Information System, Advanced Traffic Management System, and Advanced Public Transportation System

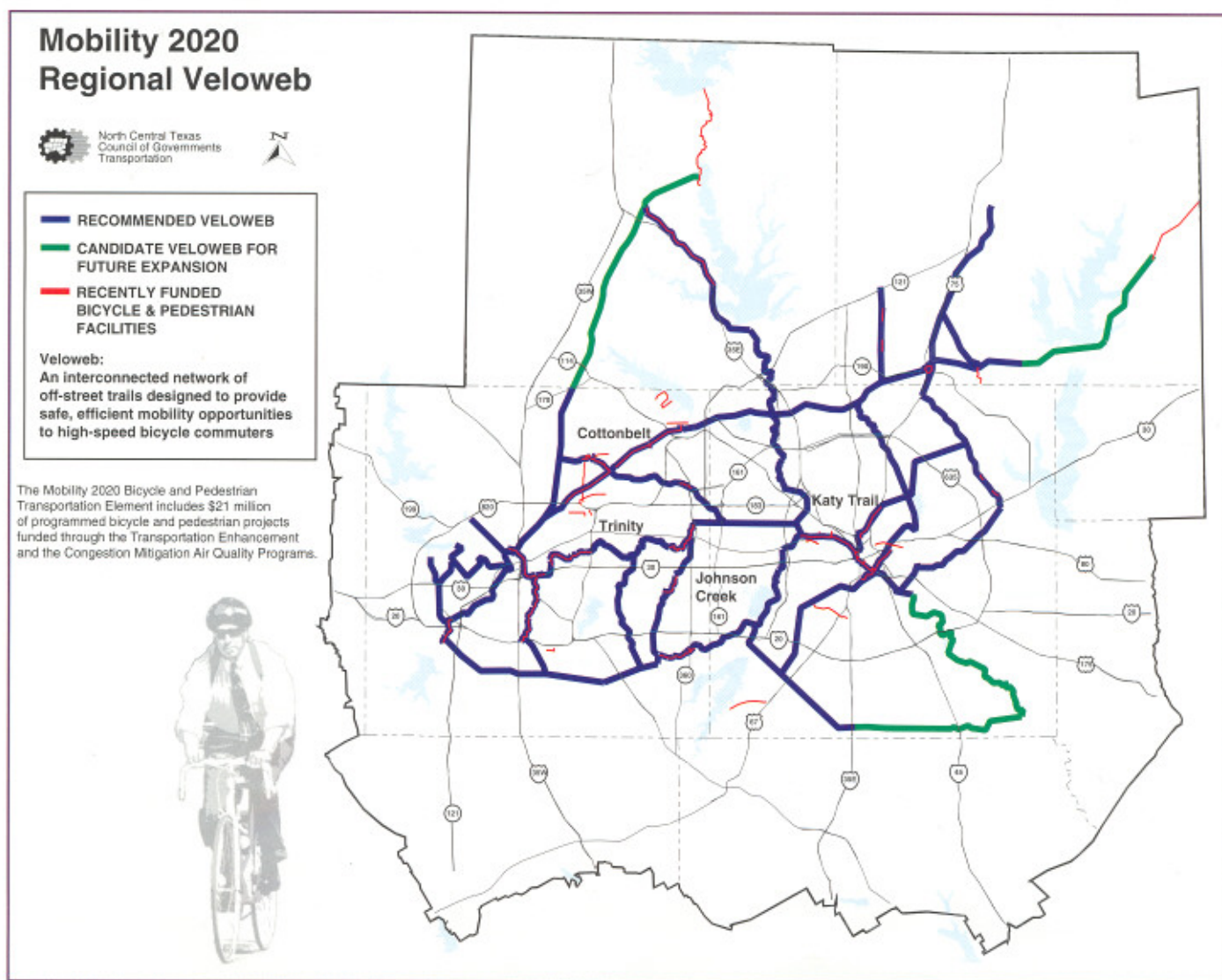


Bicycle and Pedestrian Facilities

Bicycle, pedestrian, and transportation enhancements are included in Mobility 2020 as strategies to further reduce the region's dependency on automobile travel. Bicycle and pedestrian facilities are proposed to be developed to mostly serve commuter trips of less than 5 miles in length, particularly in high density areas and along congested travel corridors. Developed in conjunction with NCTCOG's Bicycle and Pedestrian Task Force, the Plan calls for \$233 million of funding to support four categories of bicycle and pedestrian facilities. The first of these strategies is an on-street bicycle access program.

The principal component of this program is the widening of outside lanes on arterial streets to create a safer environment for bicycle commuting. The second recommendation is the development of a companion off-street system referred to as the Regional Veloweb. The Veloweb will be an interconnected system of paved routes with signing and grade separated crossings to facilitate bicycle commuter travel. The development of Bicycle Transportation Districts is the third category of bicycle improvements in the Plan. Bicycle Districts are being recommended to develop a system of improvements which will promote bicycle commuting as a more viable mode of travel.

These concentrated areas of investment may include signed on-and-off street routes, bicycle parking at storefronts and businesses, bicycle storage facilities, lockers, and various other amenities for commuters. Finally, the Plan calls for greater emphasis to be placed on the planning of pedestrian facilities across the region serving major activity and transit centers as additional light rail, commuter rail, and high occupancy vehicle lanes begin operation. Transportation enhancement projects previously funded in the Dallas-Fort Worth Area are inventoried in the Mobility Plan. Future enhancement projects will be added to the Plan upon selection by the Texas Transportation Commission.



Rail and Bus Transit System

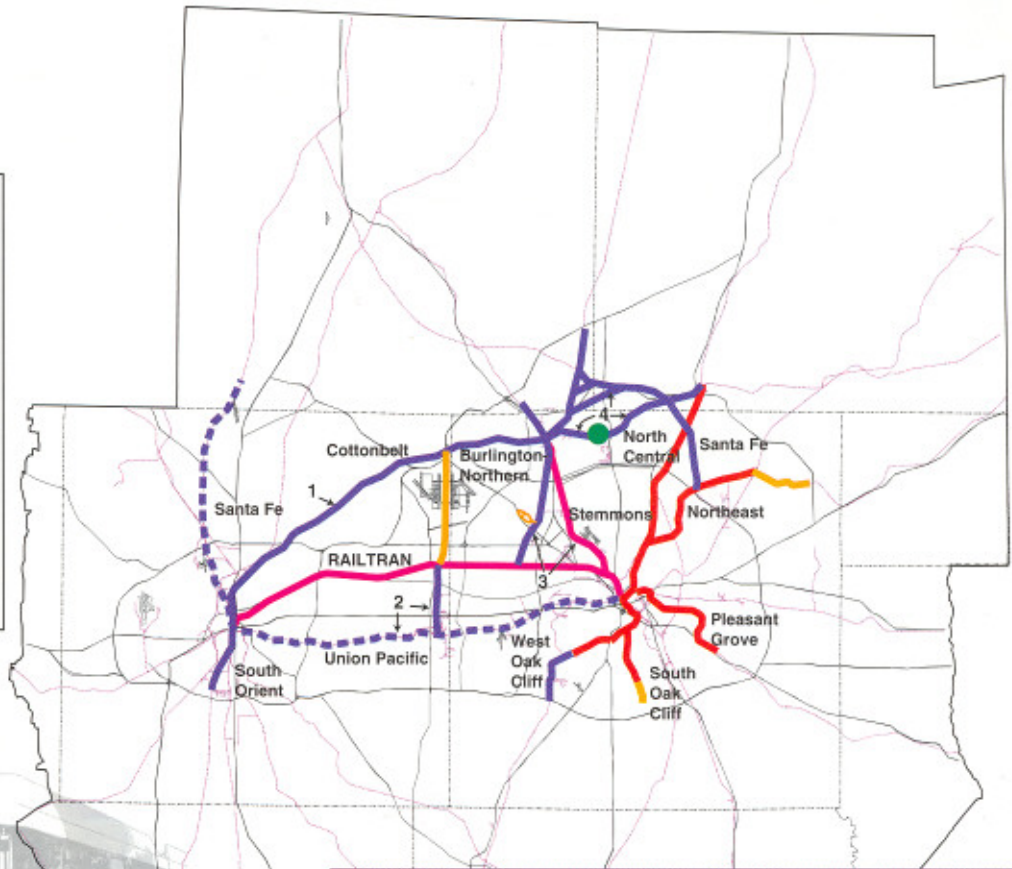
Mobility 2020 Rail System



- COMMITTED LIGHT RAIL
- COOPERATIVELY FUNDED RAIL
- COMMITTED COMMUTER RAIL
- RAIL SYSTEM EXPANSION PENDING FURTHER STUDY
- COMMUTER RAIL SPECIAL EVENT SERVICE PENDING FURTHER STUDY
- POSSIBLE EASTERN TERMINUS
- 1-4 AREAS FOR FURTHER STUDY
- EXISTING RAILROAD RIGHTS-OF-WAY

All existing railroad rights-of-way should be monitored for potential future transportation corridors.

New facility locations indicate transportation needs and do not represent specific alignments.



Areas for Further Study

Study Area	Description	Purpose	Related Task Force
1	Northeast/Southwest Tarrant County	Evaluate engineering feasibility and environmental implications of commuter rail service along Cottonbelt, from DFW International Airport through Fort Worth CBD to South Orient line in southwest Fort Worth.	Formation of Tarrant Rail Evaluation Task Force
2	Arlington/Grand Prairie and Other Mid-Cities	Evaluate engineering feasibility and environmental implications of commuter rail service along the Dorothy Spur and special event service along the Union Pacific line.	Formation of Mid-Cities Rail Evaluation Task Force
3	Stemmons/Burlington Northern	Evaluate engineering feasibility and environmental implications of commuter rail service along the Burlington Northern line through Irving to Plano and commuter rail service in the Stemmons (UP) Corridor to Carrollton; consider initiation of a Major Investment Study.	Continuation of Stemmons Corridor Evaluation Task Force
4	North Crosstown Area	At a minimum, evaluate the engineering feasibility and environmental implications of: <ul style="list-style-type: none"> • rail along the Santa Fe line and the Burlington Northern line, including the feasibility of an alternative connection along S.H. 190; • rail along the full Cottonbelt Corridor, from Parker Road to DFW Airport; and • rail along the Cottonbelt Corridor with a possible eastern termination point at an Addison Intermodal Center with continuing service to DFW Airport. 	Continuation of North Crosstown Corridor Evaluation Task Force

*All decisions pending further study. In addition to rail, all alternative modes are being evaluated.

A major component of Mobility 2020 is the continued expansion of passenger rail service. The Plan calls for the implementation of 46 miles of light rail service beyond the 20 mile DART starter system, and an additional 135 miles of rail service contingent upon opportunities for system expansion. Special event rail service and the expansion of the people mover system in the Las Colinas Urban Center are also identified. The total rail investment identified in the Plan is \$2.9 billion to be constructed in conjunction with Dallas Area Rapid Transit, RAILTRAN, the Fort Worth Transportation Authority, and local governments. Key to the Mobility 2020 rail system recommendations is the call for additional study to determine the engineering feasibility, environmental implications, and funding requirements to implement the Plan recommendations. To help serve 377,000 daily transit trips, Mobility 2020 recommends continued local bus service, expanded feeder bus service to the rail system, and additional express buses serving new park-and-ride lots and HOV lanes.

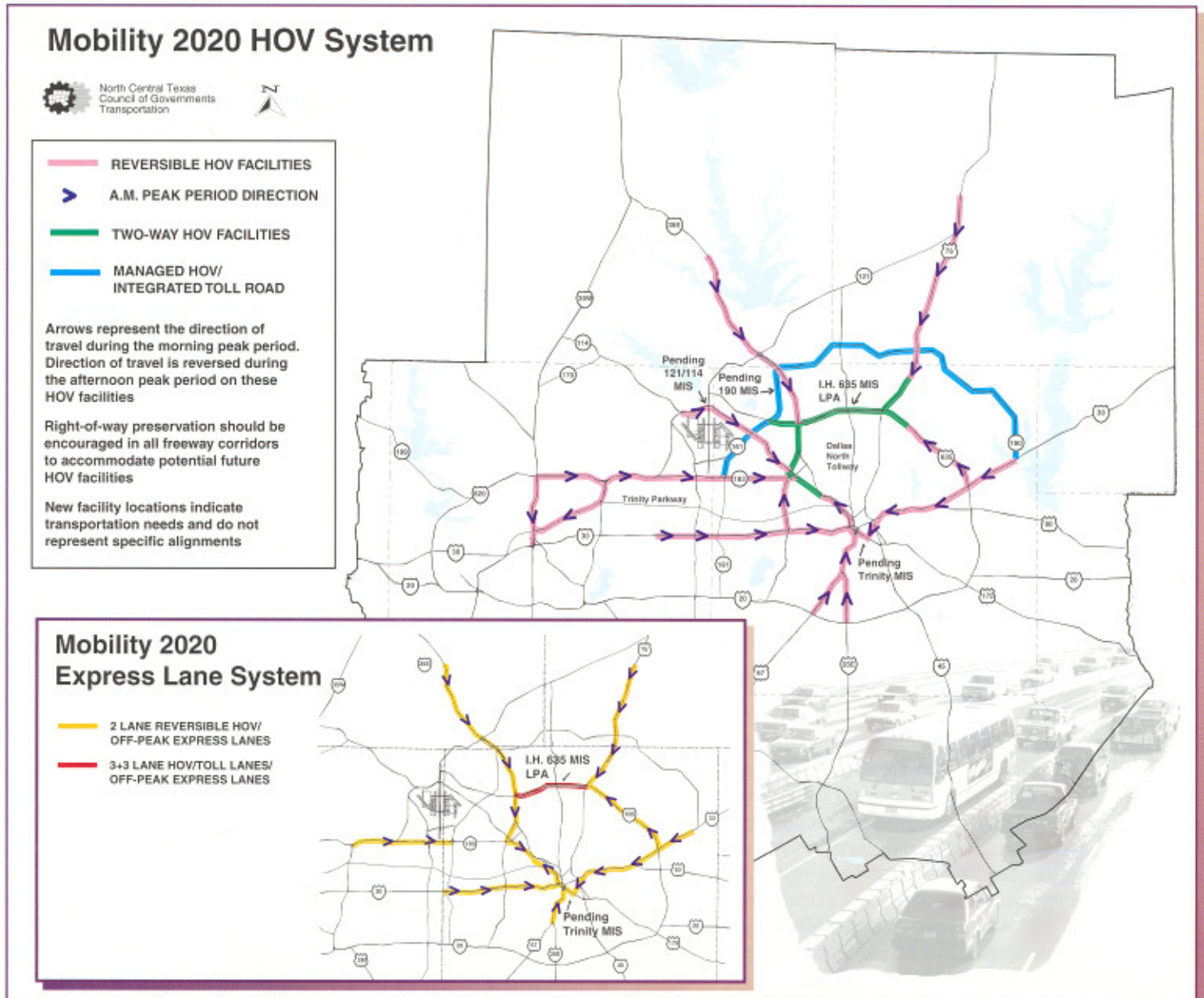
HOV and Express Lanes System

High Occupancy Vehicle (HOV) lanes are a key component of Mobility 2020. The Plan identifies 249 miles of permanent HOV lanes for express buses, vanpools, and carpools at an estimated capital cost of \$1.2 billion. By providing a travel time advantage to users, HOV lanes will attract commuters normally traveling by themselves to rideshare or ride express buses, thereby increasing both the average occupancy of vehicles using the system and the system's overall carrying capacity.

The majority of HOV facilities are reversible. In several corridors, such as Interstate 635 (LBJ) and Interstate 35E (Stemmons), demand is sufficient to warrant two-way HOV lanes.

In addition to dedicated HOV lanes, the Plan also identifies future corridors likely to be built as toll roads where HOV lanes are also needed. In these corridors, HOV users will be integrated into the design and operation of toll lanes through variable pricing programs which will allow HOV users to travel on toll roads free or at discounted rates.

Mobility 2020 also recommends multi-lane peak-HOV lanes with off-peak express service. Shown in the map insert below, these facilities will be reversible in most corridors and designed to serve as express lanes for all traffic in the off-peak travel periods. The Plan includes recommendations from the recently completed Interstate 635 (LBJ) Freeway Major Investment Study which calls for a combination of HOV, toll, and express lanes in the corridor. Other detailed HOV recommendations are pending on-going and future major investment studies.



Freeway and Toll Road System

Mobility 2020 Freeway System

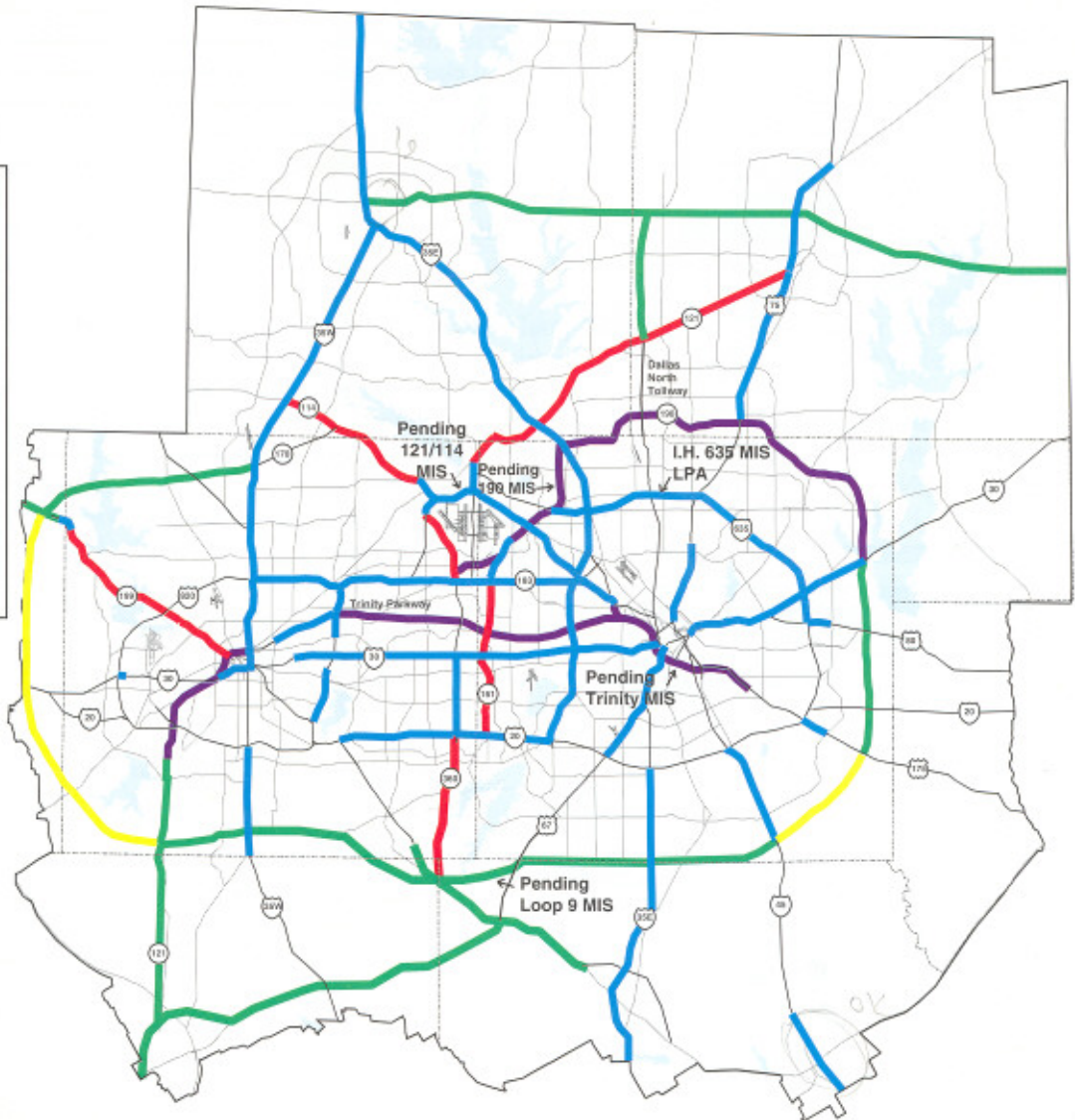


- IMPROVE EXISTING FREEWAYS
- NEW STAGED FREEWAYS
- NEW TOLL ROADS
- NEW STAGED FREEWAYS/ TOLL ROADS / PARKWAYS
- PRESERVE RIGHT-OF-WAY

Additional and improved freeway interchanges and service roads should be considered on all freeway facilities in order to accommodate a balance between mobility and access needs.

New facility locations indicate transportation needs and do not represent specific alignments.

See Express Lanes Map for locations of additional mixed flow capacity



Dallas CBD



Ft. Worth CBD



The regional freeway system is a major component of Mobility 2020. The Plan addresses the challenge of building and maintaining this system with rapidly growing travel demand and limited financial resources. Key to financing these improvements is implementation of additional toll roads. Over \$2.5 billion of the needed \$7.8 billion freeway improvements are earmarked for toll road construction pending further feasibility study.

Several categories of freeway system improvements are shown. **Improve Existing Freeways** includes the

widening of existing facilities by an additional two or more lanes. **New Staged Freeways** are those corridors warranting new freeway lanes by the year 2020. **New Toll Roads** are those corridors where travel forecasts and toll revenue estimates support the feasibility of construction by the year 2020. **New Staged Freeways/Toll Roads/Parkways** are future corridors where main lanes are not warranted prior to the year 2020. However, staged construction of service roads and interchanges should take place prior to that time. This category of improvements includes parkway-type

facilities in many of the outlying areas. The final category of improvements is **Preservation of Right-of-Way**. Travel forecasts in these corridors do not support the need for construction of these facilities prior to the year 2020. However, in order for these roadways to be built, right-of-way should be preserved today by local governments.

The Mobility 2020 Plan calls for the construction of 1,387 lane miles of new freeways, 506 toll road lane miles, and 771 lane miles of staged construction facilities to address future travel demand.

Regional Arterial System

A critical component of the Metropolitan Transportation System is the network of regional arterials and local government thoroughfares. Mobility 2020 includes 1,680 center line miles of regional arterials which serve as both connections to major freeway corridors and relievers to many congested freeways. This \$1.2 billion system of regional arterials will carry 20 percent of the region's daily vehicle miles of travel by the year 2020.

This regional arterial system is based primarily on efforts completed in 1994 to develop the NCTCOG Regional Thoroughfare Plan.

Included in this system are those facilities classified as principal arterials in the 1992 ISTEA roadway functional classification initiative, as well as those arterials submitted to the U.S. Congress as part of the National Highway System. Additional arterials were added based upon maintaining system continuity and local government thoroughfare plans.

A goal of this ongoing thoroughfare planning process is to establish future project selection criteria which will focus State and federal roadway funds on arterials of regional significance and contained within the Metropolitan Transportation System.

In addition to this system of regional arterials, the Plan also includes funding for \$2.2 billion of local thoroughfares. These projects are anticipated to be constructed over the next 24 years primarily through city and county bond programs, and are critical to maintaining mobility throughout the region. Principal, minor, and collector arterials serve to link freeways, toll roads, HOV lanes, and rail lines to major commercial activity centers, communities, and neighborhoods. Construction of these facilities needs to be coordinated with on-going congestion mitigation strategies including intersection and signalization improvements.

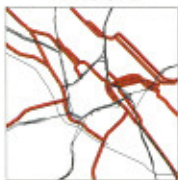
Mobility 2020 Regional Arterial System



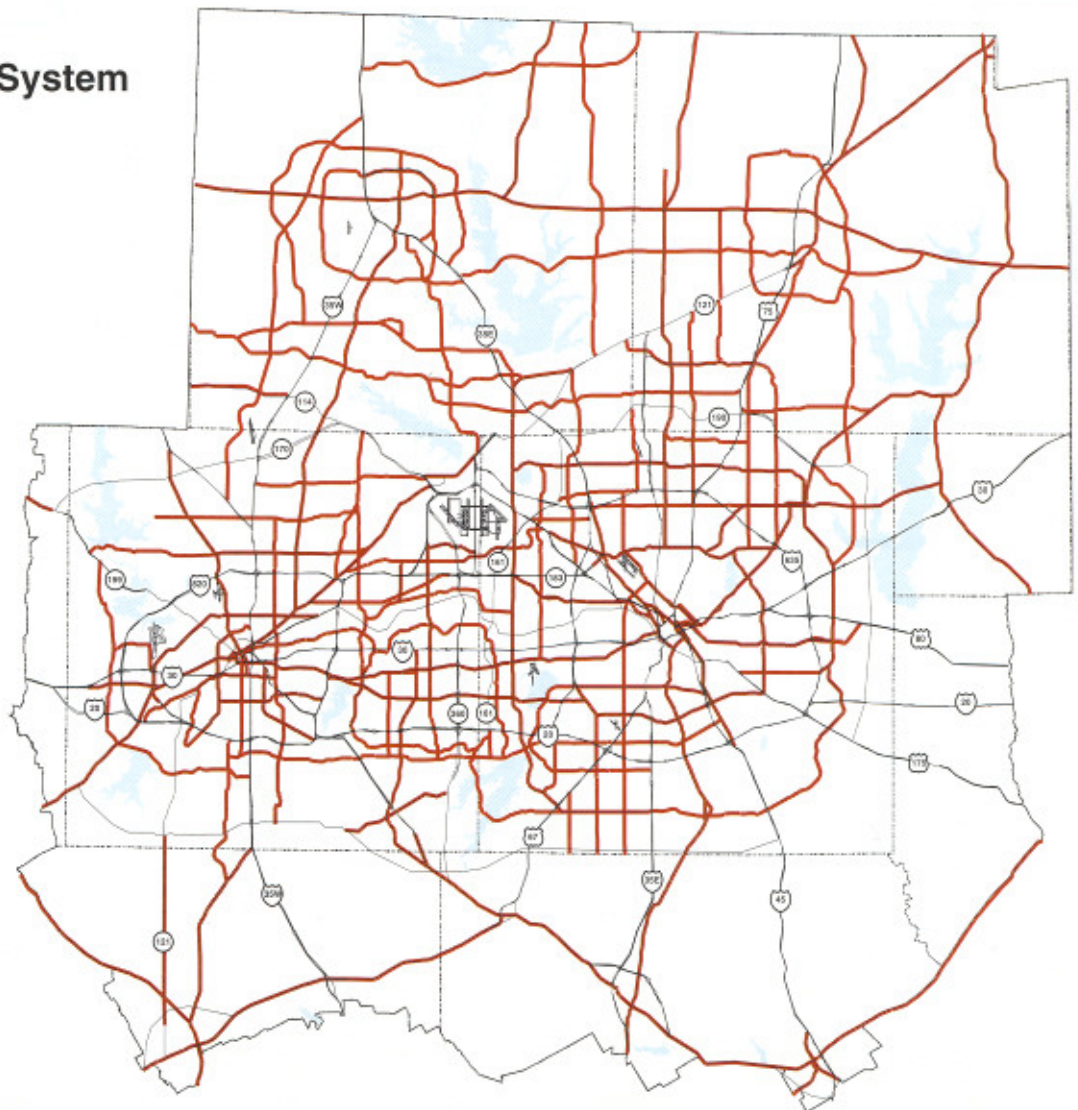
— REGIONAL ARTERIALS

New facility locations indicate transportation needs and do not represent specific alignments.

Dallas CBD



Fort Worth CBD



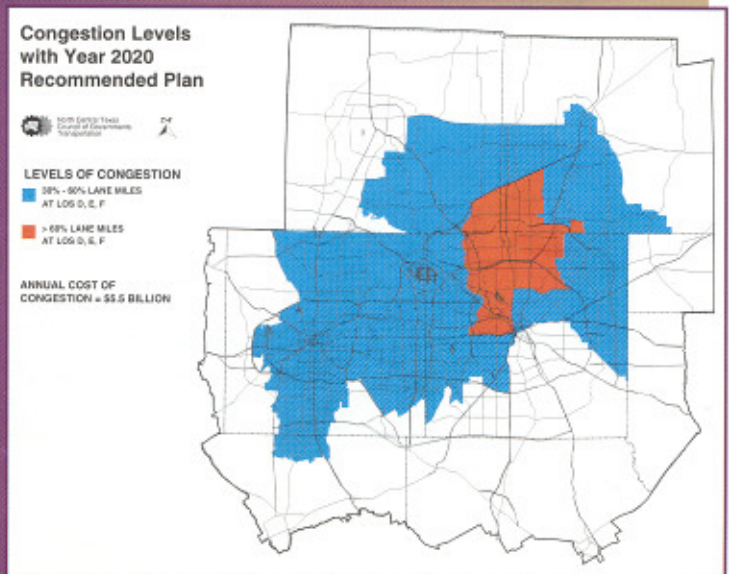
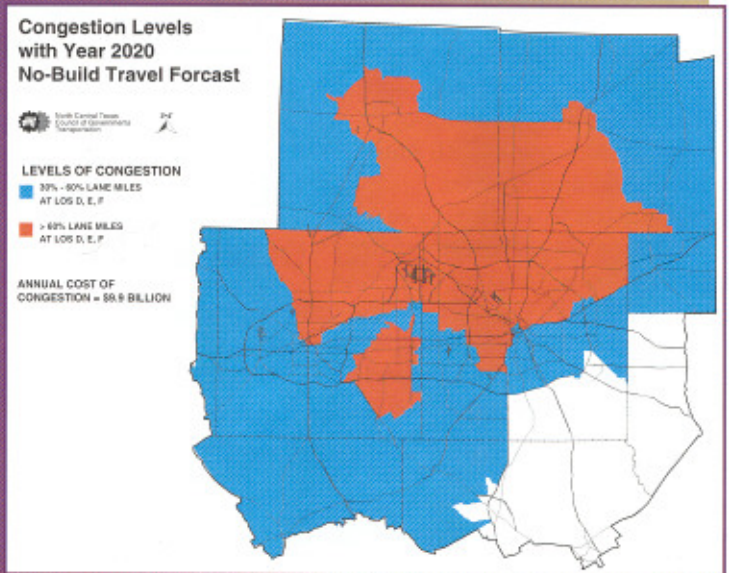
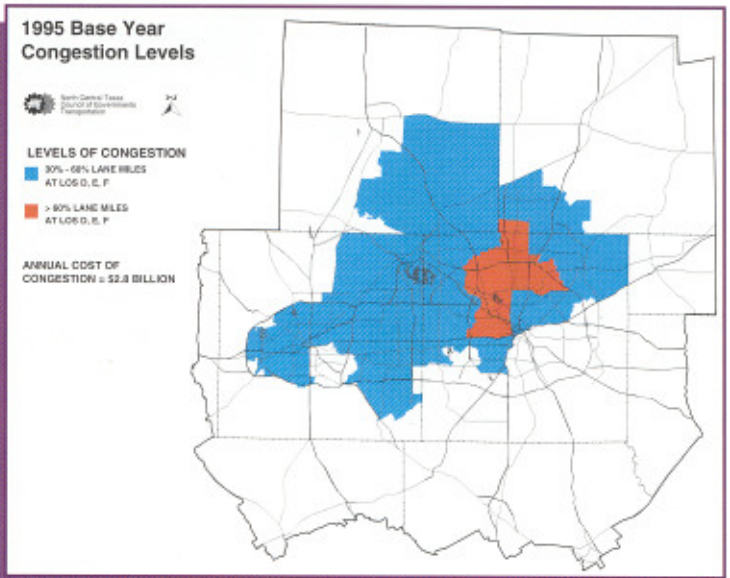
Transportation System Performance

Transportation system performance information was generated throughout the Mobility 2020 process. This information was provided to staff, elected officials, and the public in order to establish baseline conditions and to serve as a tool in guiding the development of transportation system alternatives.

In 1995, daily network vehicle miles of travel exceeded 102 million miles per day in the region. Over 30 percent of the roadways were congested during the peak hour, resulting in an annual cost of \$2.8 billion in congestion delay to motorists. To serve as a means of comparison, and as a tool to illustrate the potential impacts of future growth, a year 2020 No-Build travel forecast was generated. This process simulated year 2020 travel on the 1995 transportation system. The No-Build scenario cost of congestion increases to \$9.9 billion with over 66 percent of the roadways congested during the peak hour. Severe congestion levels greatly increase to include large portions of Collin, Dallas, Denton, and Tarrant Counties, and moderate congestion levels consume nearly the entire region. While the No-Build alternative is not an expected outcome, the results of this analysis illustrate the potential impacts of future growth on mobility.

Implementation of Mobility 2020 significantly reduces the amount of congestion when compared to the No-Build scenario. However, with daily network vehicle miles of travel estimated to exceed 180 million miles per day by the year 2020, the system will be forced to accommodate substantial growth in travel demand over the next 24 years. With Mobility 2020 in place, approximately 43 percent of the region's roadways will experience peak-hour congestion with an associated cost of \$5.5 billion annually. Similar to 1995 conditions, the northern portions of Dallas County and southern portions of Collin and Denton Counties will continue to experience severe congestion. Moderate congestion levels are projected to increase in Collin, Dallas, Denton, Johnson, and Tarrant Counties.

Reducing congestion and its related impacts on air quality, energy, safety, and the quality of life are primary goals of Mobility 2020. However, due to financial constraints, additional capital expenditures are not feasible without additional revenue. In order to reduce these congestion levels, additional revenue strategies must be pursued as well as further implementation of aggressive congestion mitigation strategies aimed at reducing travel demand.



Financial Plan

In accordance with the requirements of the Intermodal Surface Transportation Efficiency Act, Mobility 2020 must be constrained to estimates of available financial resources. If the Plan assumes additional revenue to be available beyond current levels, the Plan must also include strategies by which this revenue will be generated. The cost of Mobility 2020 is estimated at \$32.5 billion over the 24-year implementation period. Forty two percent of the Plan's financial resources are directed towards operation and maintenance of the system. Capital expenditures of \$18.9 billion are allocated across the various Metropolitan Transportation System components based on need and eligible funding programs.

As part of the development of Mobility 2020, an in-depth analysis of the historical and current transportation funding was carried out including investigation of the sources of funds, funding formulas, and the administrative processes that result in taxes and fees being collected and expended for specific transportation improvements.

The primary sources of revenue for transportation maintenance, operations, and capital improvements include: federal and state motor fuel taxes, state vehicle registration fees, dedicated transportation authority sales taxes, toll road revenue, and local government bond programs. This analysis revealed that if the rates associated with these revenues remain at their current levels, or status quo, there will not be sufficient funding to construct this Plan. This is particularly critical in the area of freeway and thoroughfare construction, as the primary source of revenue for these improvements is motor fuel taxes. This revenue continues to be eroded by the diversion of funds to nontransportation purposes.

Metropolitan Transportation System Components	Cost (Millions/1996 \$)
Congestion Mitigation Strategies	\$1,872
Bicycle & Pedestrian Facilities and Transportation Enhancements	\$424
Rail and Bus Transit System	\$2,993
HOV and Express Lane System	\$1,197
Freeway and Toll Road System	\$7,822
Regional Arterial and Local Thoroughfare System	\$4,608
Operating and Maintenance Costs	\$13,590
Total	\$32,506
Status Quo Revenue	\$25,754
Funding Deficit/Proposed Revenue Program	\$6,752

The impacts of inflation, and improved vehicle fuel efficiency resulting in less available revenue per mile driven by commuters also reduce this revenue. At risk is an estimated \$6.7 billion of needed funds to construct this Plan if status quo conditions remain.

Dedicated DART and FWTA local sales tax revenue combined with federal formula and discretionary funding, and passenger fares are used to build and operate public transportation systems. The transit agencies prepare operating and financial plans to ensure continued system operation and expansion. These plans which assume continued growth in transit ridership, transit fares, and sales tax revenue, were integrated into this effort. With regard to motor fuel taxes and vehicle registration fees, an analysis of these revenues reveals that periodic increases have historically taken place.

In order for there to be sufficient funding to implement this Plan, future increases will be needed at a rate equal to that of the projected growth rate in inflation. Construction of additional toll roads is also a critical aspect in the funding of Mobility 2020.

As part of the Plan development process, the Regional Transportation Council and the NCTCOG Executive Board adopted policy positions which address specific strategies to increase transportation revenue. Because implementation is contingent upon the need for additional revenue, the RTC will continue to monitor State and federal legislative initiatives to ensure that funding is available to implement Mobility 2020.

Revenue-Enhancing Policy Initiatives

- ◆ Elimination of nontransportation uses from dedicated transportation funds
- ◆ Increases in local, state, and federal revenues for transportation
- ◆ Construction of new freeways as tollroads
- ◆ Removal of the Highway Trust Fund from the federal budget and spending down the Highway Trust Fund
- ◆ Review of federal and State design requirements to eliminate unnecessary expenses

Air Quality Conformity

The transportation strategies included in Mobility 2020 must be subjected to an intensive air quality conformity review due to the ozone nonattainment status of the region. Conformity is the mechanism in the Clean Air Act (CAA) that requires the region's Metropolitan Transportation Plan to be consistent with State and local air quality objectives to meet federal clean air standards as identified in the State Implementation Plan (SIP). To meet the requirements of the CAA and SIP, the Plan must be consistent with an established emission budget, contribute to mobile source emission reductions, and provide for the timely implementation of transportation control measures.

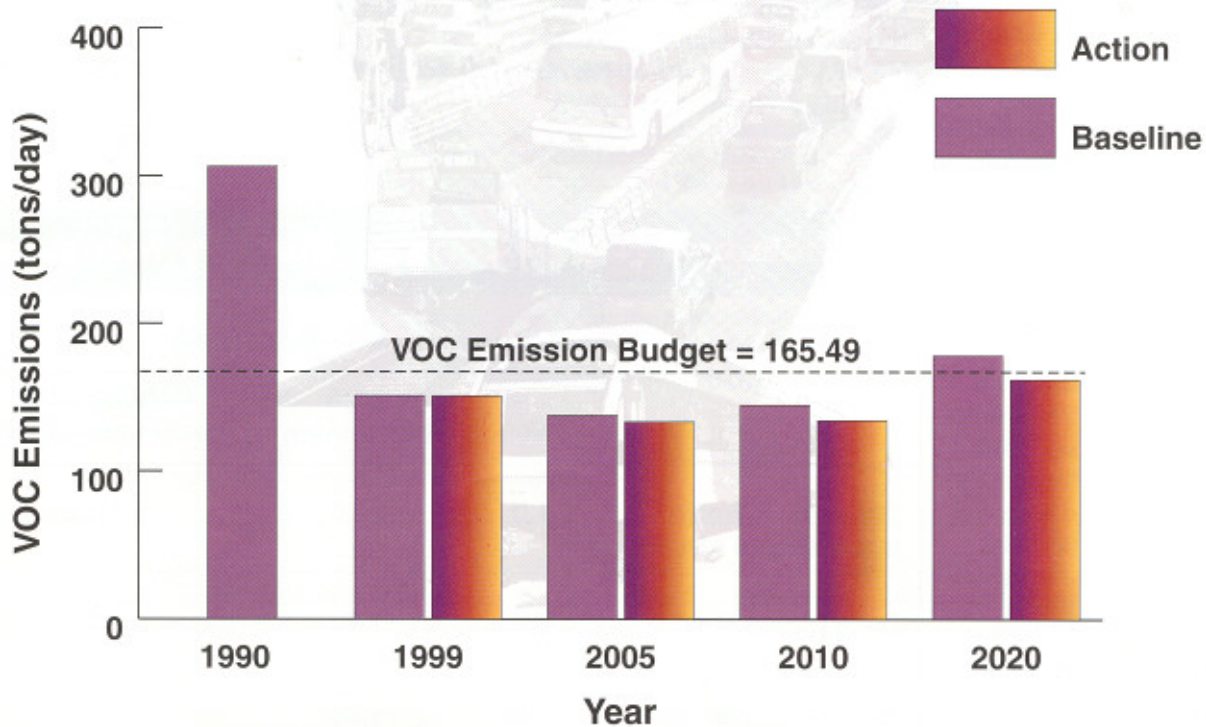
The results of the air quality conformity analysis conducted on Mobility 2020 indicate that the Plan is consistent with the volatile organic compound (VOC) emission budget in the SIP and contribute to emission reductions when comparing 2020 action versus 1990 emissions.

While the Plan meets these conformity requirements, continued emphasis must be placed on the implementation of Transportation Control Measures (TCMs). TCMs are projects specifically designed to reduce this region's congestion and improve air quality. Typical projects include intersection and signal improvements, advanced transportation management,

HOV/express lanes, and travel demand reduction strategies, all of which are components of the Plan and inventoried in the Transportation Improvement Program (TIP).

In order that the Dallas-Fort Worth Metropolitan Area continues to thrive economically, efforts must remain focused on our commitments to implement transportation improvements with positive air quality benefits. Failure to do so will jeopardize both our environment and our ability to receive additional federal transportation system funds critical to the implementation of this Metropolitan Transportation Plan.

Conformity of the TIP and Mobility 2020: The Metropolitan Transportation Plan Volatile Organic Compound Emissions



Intermodal Considerations



With the ratification of the North American Free Trade Agreement (NAFTA) in 1993, accommodating future

increases in trade traffic is becoming an important transportation issue. Texas leads the nation in exports to Mexico; our freeway, rail, and airport infrastructure all play important roles in facilitating international trade. Approximately 80 percent of all overland trade between the United States and Mexico travels through Texas.

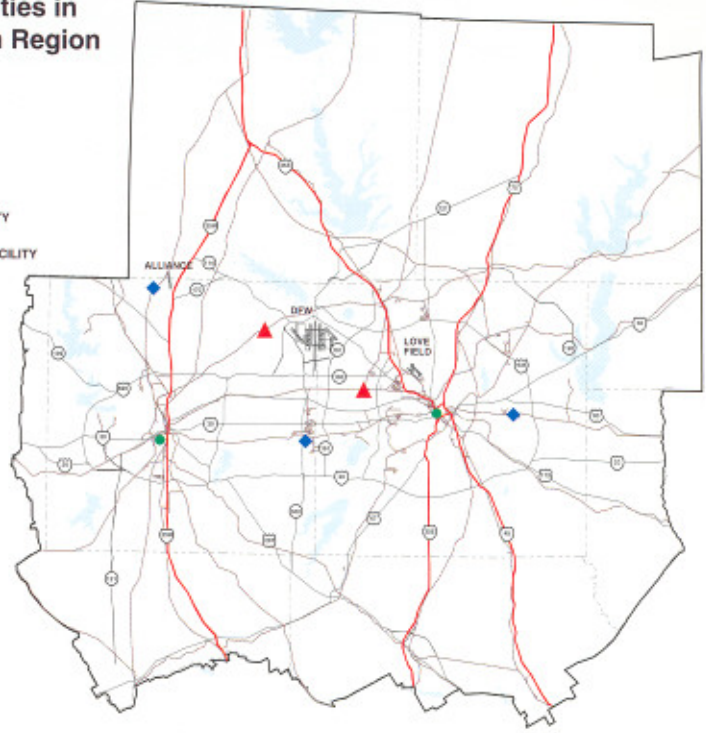
Dallas-Fort Worth is poised to be a significant hub for NAFTA-related trade and transportation activity for all modes of transportation. Mobility 2020 recommends many improvements that will facilitate further flow of NAFTA-related traffic. There are three principal freeway corridors in the Dallas-Fort Worth region handling NAFTA-related traffic. Interstate Highway 35 is a key corridor, due to its proximity to highway facilities serving the northeast and midwest, the primary origins and destinations of U.S.-Mexico trade. U.S. 75 may act as an alternative route to I.H. 35 and I.H. 45 carries cargo from the Port of Houston to points north.

An important aspect of effectively transporting goods and passengers is access to and from intermodal facilities. To quantify the benefits of the Plan on air carrier facilities, an Airport Mobility Index was developed. This index was used to measure the level of access to the region's two large hub airports, Dallas Love Field and Dallas-Fort Worth International Airport that will be achieved with the Mobility 2020 implementation. The Airport Mobility Index represents the weighted peak-period travel time of all airport users accessing the airport. Improvements to the airport access index as a result of implementing Mobility 2020 are shown.

Key Intermodal Facilities in the Dallas-Fort Worth Region



- NAFTA CORRIDORS
- RAIL LINES
- ◆ TRUCK / RAIL INTERMODAL FACILITY
- ▲ TRUCK / PIPELINE INTERMODAL FACILITY
- TRANSIT INTERMODAL CENTERS



In addition, a NAFTA Corridor Mobility Index was also developed to measure the benefits of Mobility 2020 recommendations on NAFTA corridors. The NAFTA Mobility Index is based on average peak-period travel times for primary NAFTA corridors in the region. The improvements to NAFTA Corridor access provided by Mobility 2020 are also shown.

Results of both the Airport Mobility and NAFTA Corridor Indices suggest that the Plan's recommendations have significant positive impacts on these measures. However, due to the critical nature of these key economic issues, additional emphasis is needed in the planning and implementation of transportation improvements which will improve the freight and intermodal mobility of the region.

Airport and NAFTA Corridor Mobility Measures

Location	Mobility Index		
	1995	2020 Do-Nothing	Mobility 2020 Recommendations
Dallas/Fort Worth International Airport	1.0	1.50	1.22
Dallas Love Field	1.0	1.48	1.26
NAFTA Corridors	1.0	1.85	1.50

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North Central Texas Council of Governments

The North Central Texas Council of Governments (NCTCOG) is a voluntary association of local governments within the 16-county North Central Texas region. The agency was established in 1966 to assist local governments in planning for common need, cooperating for mutual benefit, and coordinating for sound regional development. North Central Texas is a 16-county region with a population of 4.2 million and an area of approximately 12,800 square miles. NCTCOG has 226 member governments, including all 16 counties, 160 cities, 26 independent school districts, and 24 special districts.

Since 1974, NCTCOG has served as the Metropolitan Planning Organization (MPO) for transportation in the Dallas-Fort Worth Metropolitan Area. The Regional Transportation Council is the policy body for the Metropolitan Planning Organization. The Regional Transportation Council consists of 35 members, predominantly local elected officials, overseeing the regional transportation planning process. NCTCOG's Department of Transportation is responsible for support and staff assistance to the Regional Transportation Council and its technical committees, which comprise the MPO policy-making structure.

The contents of this report reflect the views of the authors who are responsible for the opinions, findings, and conclusions presented herein. The contents do not necessarily reflect the views or policies of the Federal Highway Administration, the Federal Transit Administration, or the Texas Department of Transportation.

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